

IMPLICATIONS FOR MANAGEMENT

The Cape Tribulation reefs are characterised by high natural sedimentation and turbidity and this results in low larval recruitment rates to visible size (despite abundant larval availability), and low light levels, respectively. The dominance of maximum light collection growth forms such as foliose colonies means that sedimentation rates in shallow water are not sufficient to exclude this type of growth. Anthropogenic sediment input must increase the total amount of sediment, but there appears to be no measurable impact of this input to date. Additional input above the normal background levels will continue as long as the road remains unsealed and is routinely graded. This may represent an accumulating chronic long term problem as the reef system is essentially oceanographically self-contained with most processes and their effects remaining within this area.

- It is possible that sediment could accumulate gradually through chronic run-off during wet seasons so that lethal effects can be detected only over a relatively long time. This sediment may also be resuspended during periods of rough weather increasing the problems.

- As data from the sedimentation studies is still being analysed, it is not possible to relate coral larval recruitment and settlement to sedimentation rates at this time.

- Pre-road data is hence imperative for proper assessment of the impact, and it is important that hydrodynamic data be collected early in the project to aid the design of an appropriate study. Correlations of diminishing effects of an impact over distance were hard to determine due to the heterogeneous shape of the coastline (causing eddy effects and variable exposure to water motion), and due to the natural variability in the coral communities.

- To help mobilise a quick response to cases such as this, a readily available source of funds should be kept so that pre-impact data can be collected at short notice.